

114  
Paperd Jan 26<sup>th</sup> 1828

Cursorry Remarks

on

Amputation of the Extremities.

by

Henry C. Pratt.

of

Philadelphia



1828.

The operation of Amputation must ever be looked upon as one of the most important that the Surgeon can be called upon to perform, as it always involves the Patient in acute suffering and consigns him to irreparable deformity. Did the difficulty of its performance bear any ratio to the importance of its effects on the unhappy Patient, perhaps we should not find it so common an operation as it always has been, but, (I had almost said unfortunately,) it is one of the simplest in surgery, & to this cause I am afraid we must look in some degree for its frequency in former times; a frequency that the march of Science has shewn us to have been but too often totally unnecessary. In fact the older Surgeons took off an arm or a leg with so little hesitation, that one would think they had imagined mankind possessed of the same recuperative powers that Naturalists have discovered in some of the Crustaceous fishes, which on losing a leg are soon accommodated

negp

375.744

POM 43

1878-29

733403-126

with a new one from the stump. Of all the extensive  
improvements in surgery perhaps none are of greater  
importance than those relating to the subject in question,  
the caution with which the surgeon now proceeds to this  
operation is alike honorable to himself & beneficial to  
humanity. Who can see a fellow being deprived of a leg  
& limping along by the aid of a crutch, & not ask him-  
self, 'might not that limb have been saved?' - Or who  
can see an industrious man deprived of that right  
arm which has gained him an honest subsistence &  
not deeply deplore the necessity that demands the sacrifice?  
The responsibility that rests on the surgeon who is called  
in to decide on the propriety of Amputation, is indeed  
awful! - I say 'awful' for I know of no other  
terms strong enough to express it. It is not that the  
Patient is to suffer pain, for an hour, a week, or a month,  
this is a minor consideration: but it is that he is to  
suffer a shocking & lasting mutilation, which will in  
a greater or less degree shut him out from those comforts

to the  
 all  
 a by  
 his  
 who  
 ght  
 se 3  
 sacrifice  
 called  
 in the  
 other  
 of the  
 that  
 to  
 all in  
 on the

& enjoyment common to the rest of the world, & render him an object of pity, & observation, to the end of his days. But this is not the worst: if poor he is rendered unable to provide for himself & he is left a wearisome burthen to his friends, or becomes a miserable dependant on public Charity, a sad wanderer thro' an unfeeling world. — "Morbid Sensibility" and "Specious Humanity" should be alike avoided in the contemplation of the subject of these pages, yet I fear that the elated attendant on a successful operation sometimes induces young Practitioners to sacrifice a limb even against their better judgment; I hope I may be wrong, but if there are any such, "let them speak for them have I offended." At this stage of my dissertation, it may not be improper for me to make some remarks on the different positions occupied in regard to practice by Civil & Military Surgeons, for to the first the observations already made are more particularly applicable. In civil life the Surgeon has every necessity & every comfort

of his  
and  
ling  
man  
labo  
on  
Pres  
tes  
to ac  
tadi  
imp  
her  
hinte  
tions  
In  
in for

within his reach which can contribute to lessen the  
wants, & hasten the cure of his patient. No perilous  
exposures, no cruel deprivations are to be guarded  
against; his visits are regulated by his own will &  
the object of them, is usually nursed with tender care,  
& cheered by the smiles of anxious Friendships. Let us  
now turn to the Army Surgeon, how vast the difference!  
his wounded Patient is laid on a little straw upon the  
damp, cold ground & but half sheltered by a tent, his  
situation is cheerless & desolate; no light, grateful,  
article of diet is to be procured, bad water and wooden  
beds constitute his hospital fare, even medicines are  
scarce. The Surgeon has once duty to do then he can  
possibly perform, & the Soldier suffering from an-  
: quish & neglect, looks forward to the grave with the  
diminutive sensations of despair. In the Navy, the Sailor  
with his shattered limb is thrust below in a crowded  
Ship, where, his sigh is vain for a draught of that pure  
air which seems a common gift to all. All those



the  
ilms  
Ded  
M  
Can  
Let  
Geras  
Lent  
at  
ful  
ords  
at  
can  
an  
ll  
Sub  
Ded  
/ Jan  
do

the  
ilms  
Ded  
M  
Can  
Let  
Geras  
Lent  
at  
ful  
ords  
at  
can  
an  
ll  
Sub  
Ded  
/ Jan  
do

attentions which mitigate the severity of mental anxiety & bodily pain, are to him unknown. His days of suffering & nights of woe pass in cheerless monotony, & his recovery is retarded by his musing, a foul atmosphere, constrained accommodation & a want of proper supplies. Under such circumstances a variation in practice must be demanded, & a hint which the Military Surgeon is perfectly justified in ascertaining the Civil Practitioner would be wrong to give up without an endeavour to save. — Paramount to every other consideration is the preservation of life, & subservient to this purpose in an eminent degree are the operations of Surgery, perhaps none more so, than those, which by sacrificing a part secure the general good. The observations, with which I have commenced this paper, are only intended to caution on the unnecessary & ill-judged resort to this alternative & to enforce the necessity of reflection & an appeal to the judgment as this important & irremediable step is taken; which

most  
after  
by  
can  
then  
it  
up  
want  
the  
be  
the  
man's  
C  
since  
first  
said  
when

Alas! given the imperfection of the 1<sup>st</sup> art. is but  
too often necessary. I will not trace the  
history of Amputation in small measures by the  
introduction of matter which certainly is better adapted  
to assist the recovery of a Physician than to increase the  
suffering of a patient. I shall speak of the diseases  
& accidents requiring Amputation of the extremities,  
the time at which it should be done, & the mode of doing  
it. Amputation may be denominated 1<sup>st</sup> by 2<sup>nd</sup> - that  
wounds & fractures, 2<sup>nd</sup> by compound Amputations, 3<sup>rd</sup> by  
Vascular, 4<sup>th</sup> by Tumors 5<sup>th</sup> by Disease of joints.  
6<sup>th</sup> by Ulcers. - I am first of those that wounds, almost  
every Surgeon who has written a book gives us a review  
of all diseases in which to remove ourselves in  
order to the possibility of Amputating in various parts of the  
limb. I am secondly giving us - cases in which I think  
it more than equiva the moderate performance of  
the operation. Then we must be well situated  
to the 1<sup>st</sup> the 2<sup>nd</sup> & 3<sup>rd</sup> of Dr. Ferriar & but after

the 4<sup>th</sup> & 5<sup>th</sup> of Dr. Ferriar

+ the 6<sup>th</sup> of Dr. Ferriar

had  
teeth  
to  
a cap  
with  
a day  
had,  
ing  
with  
g?  
to  
had  
a room  
in  
at the  
of the  
man  
to  
the

It is not to be expected that the surgeon will be governed by the "ipse dixit" of any man. In time of need it is his own appeal to his judgment matured by reflection & experience, that he will decide on the proper course to pursue. If a limb is shot off, there can be no doubt as to the propriety of amputating the stump. And in general the propriety is indicated when a ball shall have torn away the broadest & strongest & nearest of a limb, or extended its fracture to the joint, and entered or lacerated the soft parts or torn off a joint. But when a surgeon can sometimes comfort his acquaintance, & a friend for his patient, even the most unfavourable injury, may have a happy result. A soldier received a ball that the surgeon described as "the external & inner of the femur just under the edge of the Patella - passing obliquely downwards & backwards, near its end where the inner condyle meets the". An amputation was twice performed the patient recovered finally, & as well with a

[illegible]

stiff joint. x A similar case is given by Professor Seben.  
Dr. Mann has recorded three cases which occurred in  
the naval victory on Lake Champlain, where extensive  
injury of the parts about the shoulder joint was caused.  
In Cannon balls & fragments of the humerus, clavicle,  
-acromion, & scapula were removed as well as such  
portions of the muscles as appeared to be dead, need by  
the balls. These Patients recovered with arms not much  
disfigured - of some value. These cases were precisely  
such as we are advised by European writers to Amputate.  
Dr. Mann states that wounds of the shoulder joint are  
however not so dangerous as those of the knee & the  
elbow. In reference to the writings of the writers many  
years since. Others I might call numerous cases  
to show that the joint may recover after the removal  
of the joint well without the amputation, even the humerus  
is not so dangerous, if it does not become reduced  
to such a state that it is not worth the injury as to be  
a useless, incumbrance, & a source of which the joint



[illegible]

would gladly be used in cases where  
an operation for the removal of the troublesome member,  
was submitted to. 10 to 15 years after the receipt of the  
original wound. Fractures from Gun-shot are always  
dangerous, their danger decreases as the long bones of the  
extremities in proportion to their distance from the am-  
putation ends. Of the bones of the lower extremities, from  
other causes are often a source of great danger. The  
well known case of N. Provincial Pithy is calculated to  
teach us great caution in resorting to the operation in  
such cases. Operations of this kind done to the right  
are particularly dangerous. In civil life the question  
of an amputation is to depend on the extent of the injury  
- but in the P. the constitution alone; the Military  
Surgeon in addition to these circumstances must be gov-  
erned by his opportunity of procuring a regular course  
of treatment, & the degree and kind of exposure to  
which his patient must necessarily be subjected. -  
Compound Dislocations will sometimes demand an ampu-

Leu  
mosab  
166  
luu  
o. h.  
te h.  
ron  
s. a  
ter  
ten  
k.  
guat  
ap.  
chle  
hij  
con  
u b  
h -  
ste

for they may be attended by an immense deal of injury  
to the parts in which they occur. Dr. Gibbon witnessed  
a case where the knee joint was torn open & the bones  
at the same time lacerated, & yet the limb recovered.  
This must be regarded as a very uncommon fortunate  
case of this nature in general will be fatal, for Am-  
putation, & sometimes dislocation of the ankle, joint  
are not as fatal as the next joint, & being always com-  
plicated with fracture are attended by the most serious  
consequences. Bower has recommended an amputation of  
the leg for irreparable dislocation of the astragalus, but  
I imagine you surgeons much less, when it, would  
be governed by his advice. Dr. Keenich is of opinion that  
even in bad cases the operation should not be resorted  
to. Instances, however will occur rendering the use  
of the knife absolutely, & he; the following  
take to be of this kind. On the month of October  
last I was called to a sailor who had fallen from  
a height of about forty feet in the Wet Navy Yard

*[Faint handwritten notes or bleed-through from another page.]*

[illegible]

1. The first part of the paper is devoted to a general discussion of the problem of the existence of a solution of the system of equations (1) for arbitrary values of the parameters  $\alpha$  and  $\beta$ . It is shown that the system has a solution for arbitrary values of the parameters  $\alpha$  and  $\beta$  if and only if the condition  $\alpha + \beta = 1$  is satisfied.

mouth was discharged from the wound, in which there  
was but little appearance of health, when further  
information. eight punctures were applied to the breast  
in a circle. It was observed that it felt much the  
same. It appeared that the blood was not free from  
the heart. The case is extremely odd.  
In the first place, that the lungs were not  
with the heart but to the right. On inspection it was  
found that the lungs had been pushed along the bones of  
the body. No blood was seen in the lungs, or in the  
arteries. In a few days, however, the patient died.  
Forming the observation as soon as the patient was  
seen to be in a state of collapse, after a time the patient of the  
breast was exposed. When the lungs were cut the opposite  
extreme of the heart was seen. The heart was  
of a size like those of the two sides of the  
heart. I think that if the old lungs were exposed  
the heart would be exposed. The patient is the  
first of several operations which the other is intended



the  
in  
was  
chla  
and  
The  
more  
on it  
fore  
then  
to go  
an  
it's  
the o  
the i  
the  
creat  
for th  
cath

C.

[illegible]

[illegible]

After *hemorrhages* & *hemorrhages*. The progress of  
these last disorders, when some efforts of cure, con-  
stituted can be an operation. *Hemorrhages*, in-  
formation, seems to be a constitutional, then a  
local disease. As a prodromic forming stage pre-  
sents the only chance of recovery, if it is postponed  
a bad term, being it will alone be denied, on a  
short time the effluvia will make its appearance in  
some other part, and must, in fact, the disease of the  
lungs become terminated. It is that will sink at  
the grave with all the symptoms of *phthisis* & *tuberculosis*.  
These observations are equally applicable to *hemor-  
rhages*. The more the patient is seen in clearing  
up these symptoms, for the more the symptoms with  
other of a bad disease, in fact, the more the  
more it is seen. It is seen by the degree  
and the more frequently called upon to compute on  
account of disease. It is then given any other cause  
In these cases the danger should be the least, as to, for

the  
type,  
set  
w.  
ance-  
line  
ial  
Palm  
bit  
obsc  
, with  
sals  
y,  
late  
f  
on a  
100

they will often get well when apparently incurable.  
When the resources of the Physician have been all tried  
and found useless; when the apparatus of the Surgeon  
has failed to do more, when night sweats have come  
on, when a thick skin has formed, & the bright flush  
on the Cheek tells that the Patient is feeling a reaction  
to exertion; it is then and not before that counter-irritation  
is sent to the point of disease. The operation often succeeds  
perfectly, and the Patient is restored to health from  
the open wound of the disease. It is sufficient to show a  
surgeon that he has a patient who is to be treated by  
counter-irritation, and the counter-irritation is a common  
consequence of this, and the hope of a cure is often  
suddenly revived, & the patient is then at length restored  
to health. I have seen a few cases of a severe  
counter-irritation. I have seen a few cases of a severe  
counter-irritation, & the result of the counter-irritation  
has been, in the most cases, the Patient is restored  
to health. I have seen a few cases of a severe  
counter-irritation, & the result of the counter-irritation  
has been, in the most cases, the Patient is restored  
to health.

6  
all  
of the in  
re 30  
with p  
a 50  
in ar  
needs  
f  
e e  
one  
. 2  
com.  
/ad  
st  
com  
the  
7  
0

section had existed, previous to amputation. In one of  
these an abscess was found in the bone - Ulcers  
sometimes require amputation to be performed, but such  
cases are not common. If however a Pilon's limb  
is intended, useful to him, if the bone has been crushed  
after disease - if all means of cure have failed and  
the constitution is suffering from the evil humors, then  
the use of the knife is, perfectly justifiable. Or if the  
ulcer shall have to run on a Cancerous - other ma-  
lignant disposition is still retained. The necrosis  
previously made a good distinction against tubercle on  
diseased action after amputation are here fully appli-  
cable. Amputation is sometimes performed on account  
of the disease called Elephantiasis. I have seen many  
cases of this complaint in the legs & that the feet  
& legs of some of its subjects were so enormous, enlarged  
and enlarged, as to be a great source of pain & dis-  
tress, & that the feet  
were greatly the operation.  
The limbs have been performed in cases of



on  
the  
line  
of the  
service  
and a  
man, the  
boy,  
etc.  
at the  
house  
of his  
niece  
in the  
city,  
with  
his  
family.

Gen. that are the wounds & injuries, is next to be considered. The true practice on this point is very clear. When an injury has been received which renders an operation necessary, the second is done when a solution is established the better. Allowing however, an abscess to form, it is not to be opened until it is well formed within the breast after the abscess has begun to burst, and then it is to be opened. But the operation is afterwards performed. But the decision is vague & unsatisfactory. I shall therefore add 2<sup>d</sup> to the second chapter into 3 chapters viz. 1<sup>st</sup> All spontaneous perforations within 24 hours after the receipt of the injury is what is usually meant by the primary operation viz. 2<sup>d</sup> All those cases in which a rupture has been established, not with a view to saving the limb, but that the primary operation may be done, which is the "excision" or "amputation" of the breast. 3<sup>d</sup> All those cases in which the operation may be done some time after the

be  
 George  
 did it  
 in  
 have  
 a  
 E  
 in  
 have  
 in  
 be  
 all  
 in  
 at  
 in  
 in  
 the

endeavour to restore the limb had failed. This man  
had, in months afterwards, written the Inquiry. -  
but was have been for a long time devoted teaching the  
proper time for amputation & whilst one party advo-  
cated the immediate use of the knife the other de-  
fended it until certain changes had been wrought in  
the system which they considered essential to a suc-  
cessful termination of their operations. This may  
be seen in a volume considered as yet unpublished & most  
interesting - one on which a great deal has been  
written. In 1755 the Royal Academy of Surgeons  
at Paris made it a large question in its judgment  
the matter to be determined upon this subject & the place  
of referring the question over to those who  
created this doctrine amongst whom was the celebrated  
John Hunter the champion of the last party is given  
a shock to the mind system that 5 or 60 years in  
many cases should be sufficient to elapse before  
taking up the knife. Besides say they, the mind of

[illegible]

the moment of the receipt of the wound : an extreme  
: agitated state soon will calm the mind & reconcile  
the Patient to the loss of his limb: and after all the  
amputation is to be considered as "a misfortune but not  
added to the injury" & it has a greater issue than  
the practice founded on such reasoning, never swept  
into Surgery. even James however, who has generally  
been considered as the author of this practice, gives  
cases, in which amputation should be performed on  
the field of battle & in which gives it the same  
effect & in which nature should be allowed to  
heal itself and then when the operation should be in-  
definitely postponed. The subsequent experience of  
military surgeons has effectually settled this point  
& proved that these Principles were in the wrong.  
There can be no doubt on a review of the subject that  
the surgeons who do this amputation that the primary  
symptoms may be relieved the Patient after some days  
may be in a better condition for bearing the operation

X. Hunter.

† Paris de l'Academie no 3

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

person - a line of conduct based on fallacious hopes &  
which will too generally contribute to the misery and  
death of his unfortunate patient. In this point the  
works of Wilson & Searcy are particularly explicit  
It is now well established that the patient bears  
an operation much better immediately after the action has  
taken place than some time after; and, in a great  
measure, he is now generally willing to submit to the  
decision of his surgeon whereas formerly a great  
deal of difficulty may be experienced in this head.  
If as he writes an operation is performed after the reac-  
tion of some 12<sup>th</sup> or 14<sup>th</sup> for his two previous fatal  
cases it is sufficient to overthrow whole systems of theo-  
retical arguments in destructive operations. which  
should only be performed under the circumstances set  
forth in the 3<sup>d</sup> Chap. which I have former stated you  
omit it: and never to the knowledge of full is Dr. Wilson  
(Vol. -) states, may be allowed for symptoms to pass  
away before days. A great object obtained by the





Some surgeon in at once operating is the greater facility  
into which with which the wounded soldier can be transpor-  
ed from one place to another an object which should  
never be lost sight of what can be more dreadful  
than the situation of a crowd of wounded soldiers  
thrown hasting in a wagon with their limbs shattered  
slain by bullets the fragments swelling together, each  
unconscious and inflicting his neighbor every fold of  
the carriage carrying and breaking the misery to those  
last victims of insensitive emulation. This point is  
water mark for the then in the same  
even in this case of things. How excellent is the  
Observation of General B. "In kind faith is not  
required from man to man, and no assurance for our  
indisposition must prevent us from using our own  
judgments." - The Army surgeon then must operate  
on the field of Battle as soon after the receipt of  
the wound as attending it in circumstances and  
Several engagements usually being of short duration

[illegible]

the Surgeons first intention should be to arrest the  
flow of blood under the skin the incisions should  
be forthwith performed in the most eligible situation  
that can be secured. The first cut should never be  
used for this purpose it is to be avoided. In great  
surgery the excision of the penis for embolism from  
the nature of the disease commonly requires the opera-  
tion. It is usually a attendance is a matter of compen-  
sation which is of importance in the emergency some are  
found but little sufficient in position. It is to be  
excised now & then of the extent of the disease  
embolism and the position for its removal. It  
should not be later the matter of procedure with the  
operation. The usual embolism may be found  
in the manner that is to be found. It is to be  
be taken off to the extent of the disease forming the gap  
of the skin and integuments. As the incision may be  
made in an oblique direction from below towards the  
surrounding the forming a kind of the muscles. The space

*[Faint handwritten notes, possibly bleed-through from the reverse side.]*

operates by thrusting or cutting thru the limb and  
cutting down into the bone downward. 26  
In performing the large the circular operation an  
incision is made in the skin & the operation is performed in the  
country. The D. different operation he described, the  
long incision may be made at the middle of the neu-  
rism, for but the thigh is raised along the inner side  
of the femur close to its bone. It then passes on &  
obliquely: the femoral artery must be immediately  
secured & then a corresponding operation is to be per-  
formed on the other side. The arm is to be secured  
in the same manner as the thigh - the fore arm as  
the leg, except that in the muscular flap operation  
a flap will be found on either side of the bone &  
femur and is firm. The arterio-venous limb may be ex-  
hibited in a great variety of ways Dr. Williams's plan  
to Dr. Whipple's is equally good. In the operation at  
the hip joint I think, for Dr. LeFranc's method  
several substances have been proposed for ligatures

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
1000

and I suggested to him: output, His father, so  
 soon after his recovery of animal matter it was  
 proposed that in the summer of 1835 the party  
 of the winter board. But time it seemed the ligatures  
 would be to be had in the hands of the surgeons  
 & coming to be a source of much trouble the wound  
 would soon heal up. The suggestion was made by  
 Dr. Whipple and experiment has proved his views  
 correct. In cases of emergency, for purposes  
 limited of sutures - even veins & tendons - a fine piece  
 from a tendon would serve to make an excellent liga-  
 ture; the matter to be used instead of thread. The  
 ligature however is common use: made of silk,  
 one end of which is left constant from the lower part  
 of the wound the other being cut off close to the knot.  
 It has been proposed to cut off both ends of the  
 ligature & use the knot close the wound & trust  
 to nature for the removal by absorption. - It was thought  
 that the insertion of animal ligatures would have



10  
 11  
 12  
 13  
 14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25  
 26  
 27  
 28  
 29  
 30  
 31  
 32  
 33  
 34  
 35  
 36  
 37  
 38  
 39  
 40  
 41  
 42  
 43  
 44  
 45  
 46  
 47  
 48  
 49  
 50  
 51  
 52  
 53  
 54  
 55  
 56  
 57  
 58  
 59  
 60  
 61  
 62  
 63  
 64  
 65  
 66  
 67  
 68  
 69  
 70  
 71  
 72  
 73  
 74  
 75  
 76  
 77  
 78  
 79  
 80  
 81  
 82  
 83  
 84  
 85  
 86  
 87  
 88  
 89  
 90  
 91  
 92  
 93  
 94  
 95  
 96  
 97  
 98  
 99  
 100  
 101  
 102  
 103  
 104  
 105  
 106  
 107  
 108  
 109  
 110  
 111  
 112  
 113  
 114  
 115  
 116  
 117  
 118  
 119  
 120  
 121  
 122  
 123  
 124  
 125  
 126  
 127  
 128  
 129  
 130  
 131  
 132  
 133  
 134  
 135  
 136  
 137  
 138  
 139  
 140  
 141  
 142  
 143  
 144  
 145  
 146  
 147  
 148  
 149  
 150  
 151  
 152  
 153  
 154  
 155  
 156  
 157  
 158  
 159  
 160  
 161  
 162  
 163  
 164  
 165  
 166  
 167  
 168  
 169  
 170  
 171  
 172  
 173  
 174  
 175  
 176  
 177  
 178  
 179  
 180  
 181  
 182  
 183  
 184  
 185  
 186  
 187  
 188  
 189  
 190  
 191  
 192  
 193  
 194  
 195  
 196  
 197  
 198  
 199  
 200  
 201  
 202  
 203  
 204  
 205  
 206  
 207  
 208  
 209  
 210  
 211  
 212  
 213  
 214  
 215  
 216  
 217  
 218  
 219  
 220  
 221  
 222  
 223  
 224  
 225  
 226  
 227  
 228  
 229  
 230  
 231  
 232  
 233  
 234  
 235  
 236  
 237  
 238  
 239  
 240  
 241  
 242  
 243  
 244  
 245  
 246  
 247  
 248  
 249  
 250  
 251  
 252  
 253  
 254  
 255  
 256  
 257  
 258  
 259  
 260  
 261  
 262  
 263  
 264  
 265  
 266  
 267  
 268  
 269  
 270  
 271  
 272  
 273  
 274  
 275  
 276  
 277  
 278  
 279  
 280  
 281  
 282  
 283  
 284  
 285  
 286  
 287  
 288  
 289  
 290  
 291  
 292  
 293  
 294  
 295  
 296  
 297  
 298  
 299  
 300  
 301  
 302  
 303  
 304  
 305  
 306  
 307  
 308  
 309  
 310  
 311  
 312  
 313  
 314  
 315  
 316  
 317  
 318  
 319  
 320  
 321  
 322  
 323  
 324  
 325  
 326  
 327  
 328  
 329  
 330  
 331  
 332  
 333  
 334  
 335  
 336  
 337  
 338  
 339  
 340  
 341  
 342  
 343  
 344  
 345  
 346  
 347  
 348  
 349  
 350  
 351  
 352  
 353  
 354  
 355  
 356  
 357  
 358  
 359  
 360  
 361  
 362  
 363  
 364  
 365  
 366  
 367  
 368  
 369  
 370  
 371  
 372  
 373  
 374  
 375  
 376  
 377  
 378  
 379  
 380  
 381  
 382  
 383  
 384  
 385  
 386  
 387  
 388  
 389  
 390  
 391  
 392  
 393  
 394  
 395  
 396  
 397  
 398  
 399  
 400  
 401  
 402  
 403  
 404  
 405  
 406  
 407  
 408  
 409  
 410  
 411  
 412  
 413  
 414  
 415  
 416  
 417  
 418  
 419  
 420  
 421  
 422  
 423  
 424  
 425  
 426  
 427  
 428  
 429  
 430  
 431  
 432  
 433  
 434  
 435  
 436  
 437  
 438  
 439  
 440  
 441  
 442  
 443  
 444  
 445  
 446  
 447  
 448  
 449  
 450  
 451  
 452  
 453  
 454  
 455  
 456  
 457  
 458  
 459  
 460  
 461  
 462  
 463  
 464  
 465  
 466  
 467  
 468  
 469  
 470  
 471  
 472  
 473  
 474  
 475  
 476  
 477  
 478  
 479  
 480  
 481  
 482  
 483  
 484  
 485  
 486  
 487  
 488  
 489  
 490  
 491  
 492  
 493  
 494  
 495  
 496  
 497  
 498  
 499  
 500  
 501  
 502  
 503  
 504  
 505  
 506  
 507  
 508  
 509  
 510  
 511  
 512  
 513  
 514  
 515  
 516  
 517  
 518  
 519  
 520  
 521  
 522  
 523  
 524  
 525  
 526  
 527  
 528  
 529  
 530  
 531  
 532

5  
entirely obliterated any objections to this practice. Both  
Mearns & Guthrie reject prominently of the view, as to  
scurvy in case where the early action of the wound is  
of primary importance. I think however the map of  
evidence is against it. In Dublin, the stump, the bone  
& tendons of the arm is generally fastened to the trunk  
of the arm in which the end of the stump was always  
in contact & now more often omitted with advantage.

I have now finished my  
“London Remarks” which perhaps are not so full as  
the subject might seem to demand. I believe however  
that I have touched at every thing of much import-  
ance connected with my subject. Did I feel this  
disposed to add to the “Remarks” I thought  
it doubtful whether my position to an imposing size  
and showing the fate of not too many winters in the  
house, a long ago said when I had come so, that  
the price of the land which by itself was worth  
picking up was now to be hidden by the loss of the half

*[Faint handwritten notes]*

is not to say when found the little that was  
necessary to discover it.













